Proceedings of the Zoological Institute RAS
Vol. 322, No. 1, 2018, pp. 45–49

УДК 595.753(470.62)

A NEW SPECIES OF THE GENUS *CIXIUS* (HEMIPTERA: FULGOROIDEA: CIXIIDAE) FROM KRASNODAR TERRITORY

V.M. Gnezdilov

Zoological Institute, Russian Academy of Sciences, Universitetskaya emb.1, 199034, Saint Petersburg, Russia;
e-mails: vmgnezdilov@mail.ru, vgnezdilov@zin.ru

ABSTRACT

Cixius (*Orinocixius*) *lermontovi* sp. nov. is described from Black see coast of Krasnodar Territory of Russia. This is 6th species of the genus *Cixius* Latreille recorded from this region so far and 27th species for the fauna of Russia. The new species differs from all other species of the subgenus *Orinocixius* by small size (body length with wings) – 3.0 mm. *C.* (*O.*) *lermontovi* sp. nov. is closely related to *C.* (*O.*) *cambricus* China, 1935 and *C.* (*O.*) *carniolicus* Wagner, 1939 according to arrangement and size of phallotheca teeth and length of male anal tube, but well distinguished by body size and dark brown coloration of the head, pro-, and mesonotum. *C.* (*O.*) *lermontovi* sp. nov. is characterized by wide pygofer, with hind margins strongly convex, male anal tube 4 times as long as wide medially, phallotheca with two lateral areas of weak sclerotization, denticles ventrally and two lobe-shaped combs dorsally – left comb deeply concave proximally and right comb convex, 3 movable teeth are near to the base of the distal segment of penis – upper tooth large, directed upwards and lower tooth small, directed downwards on left side, one large tooth directed upwards on the right side, lower margin of phallotheca with two strong teeth proximally.

Key words: Cixiini, morphology, Northern Caucasus, *Orinocixius*, systematics

НОВЫЙ ВИД РОДА *CIXIUS* (HEMIPTERA: FULGOROIDEA: CIXIIDAE) ИЗ КРАСНОДАРСКОГО КРАЯ

В.М. Гнездилов

Зоологический институт Российской академии наук, Университетская наб. 1, 199034 Санкт-Петербург, Россия;
e-mails: vmgnezdilov@mail.ru, vgnezdilov@zin.ru

РЕЗЮМЕ

Cixius (*Orinocixius*) *lermontovi* sp. nov. описан с черноморского побережья Краснодарского края России. Это 6-й вид рода *Cixius* Latreille указанный из этого региона и 27-й вид для фауны России. Этот новый вид отличается от всех других видов подрода *Orinocixius* малыми размерами (тело с крыльями) – 3.0 мм. *C.* (*O.*) *lermontovi* sp. nov. близок к *C.* (*O.*) *cambricus* China, 1935 и *C.* (*O.*) *carniolicus* Wagner, 1939 по расположению и размеру зубцов фаллотеки и длине анальной трубки самца, но хорошо отличается размером тела и темно-бурой окраской головы, передне- и среднеспинки. *C.* (*O.*) *lermontovi* sp. nov. характеризуется широким пигофором с сильно выпуклыми задними краями, анальной трубкой самца в 4 раза длиннее ширины в ее средней части, фаллотекой с двумя боковыми областями слабой склеротизации, зубчиками на вентральной поверхности, двумя лопастевидными гребнями на дорсальной поверхности – левый гребень глубоко выемчатый проксимально, правый гребень выпуклый, 3 подвижными зубцами у основания дистального сегмента пениса – крупный верхний зубец, направленный вверх, и маленький нижний зубец, направленный вниз, слева и крупный зубец, направленный вверх, справа, нижний край фаллотеки с двумя крупными зубцами проксимально.

Ключевые слова: Cixiini, морфология, Северный Кавказ, *Orinocixius*, систематика

INTRODUCTION

The genus *Cixius* Latreille, 1804 is one of the largest genera of the family Cixiidae Spinola, 1839 with around 300 species currently described from the Old and New World (Bourgoin 2017). The new species described below according to the structure of theca with 3 movable teeth belongs to the subgenus *Orinocixius* Wagner, 1939 [= *Acanthocixius* Wagner, 1939 *sensu* Emeljanov (2015)] which comprises 16 species (Bourgoin 2017) and is presented in the fauna of the former USSR by 12 species (Emeljanov 2015). After Gnezdilov (2000) up to now only the following 5 species of the genus *Cixius* were recorded from the Krasnodar Territory: *C.* (*Ciximonia*) *admirabilis* Logvinenko, 1976; *C.* (*Orinocixius*) *carniolicus* Wagner, 1939; *C.* (*O.*) *cambricus* China, 1935; *C.* (*Ceratocixius*) *wagneri* China, 1942 [= *C. hispidus* Logvinenko, 1967 *sensu* Emeljanov (2015)]; *C.* (*C.*) *rufus* Logvinenko, 1969. Here I describe one more species of the subgenus *Orinocixius* which increases the total number of *Cixius* species known from Krasnodar Territory to 6 and from Russia – to 27 accordingly.

The new species described below clearly differs from all members of the subgenus *Orinocixius* by small body size – just 3.0 mm (with wings) in comparison to 4.5–7.1 mm for other species (Wagner 1939; Emeljanov 2015). According to the shape of theca lobes and shape, size, and arrangement of movable theca's teeth the new species is closely related to *C.* (*O.*) *cambricus* China from which it clearly differs by the longer anal tube (4 times as long as wide medially in dorsal view). The last character brings the new species close also to *C.* (*O.*) *carniolicus* Wagner.

MATERIAL AND METHODS

Morphological terminology and taxonomy of *Cixius* follows Emeljanov (2015). The drawings were made using Leica MZ95 light microscope with camera lucida attached. The photos were taken using Leica MZ 95 with camera Leica DFC 290. Images are produced using the software Helicon Focus and Adobe Photoshop. The type specimen is deposited in the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia.

SYSTEMATICS

Family Cixiidae Spinola, 1839

Subfamily Cixiinae Spinola, 1839

Tribe Cixiini Spinola, 1839

Genus Cixius Latreille, 1804

Subgenus Orinocixius Wagner, 1839

Type species: *Cixius heydeni* Kirschbaum, 1868, by subsequent designation.

***Cixius* (*Orinocixius*) *lermontovi* sp. nov.**
(Figs. 1–9)

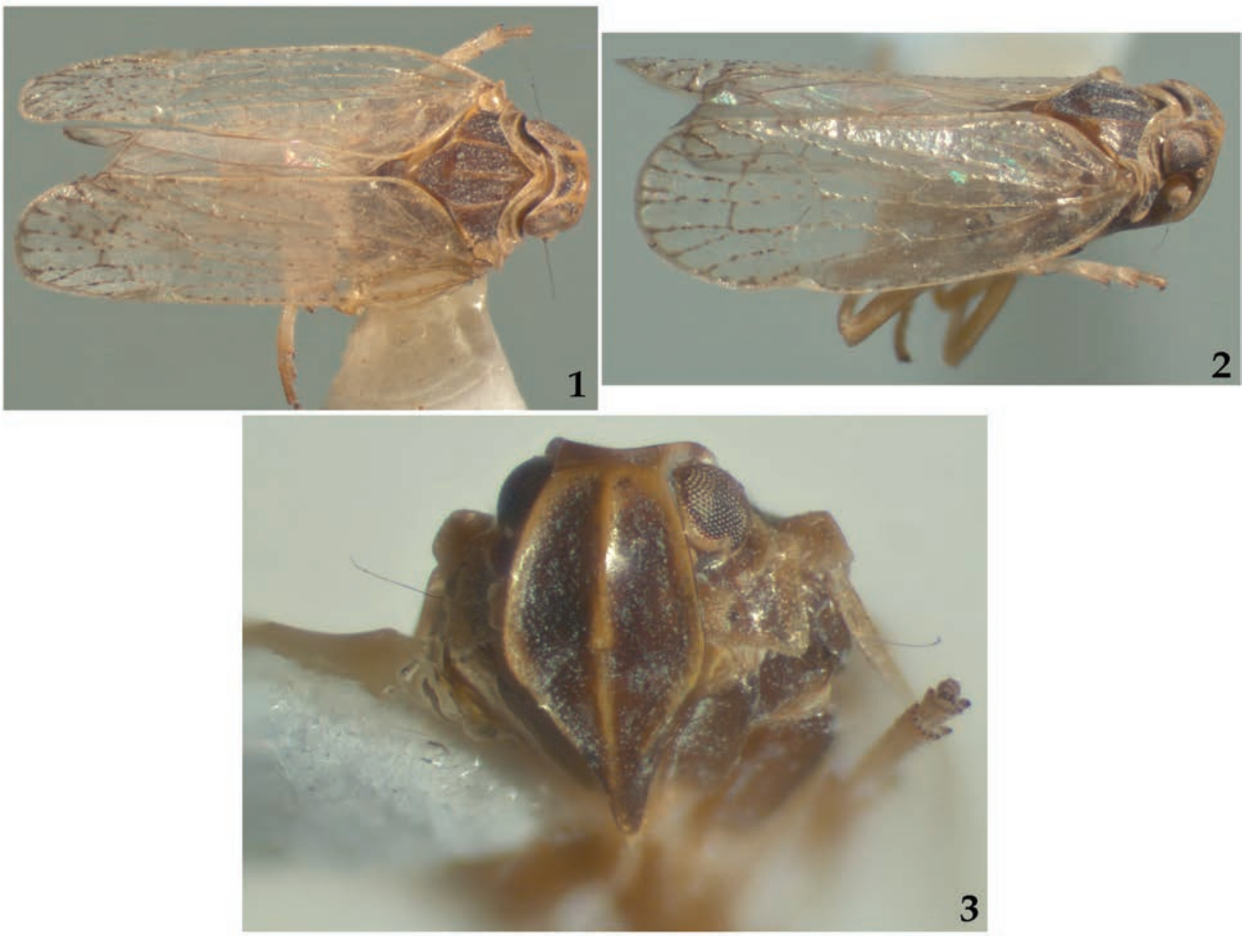
Holotype. Male, **Russia**, Krasnodar Territory, Tuapse District, near to Lermontovo village, 25 June 2002, sweeping grasses in the forest, V.M. Gnezdilov leg.

Etymology. The species is named in honour of the famous Russian poet Mikhail Yur'evich Lermontov (1814–1841) who was lieutenant of Tenginsky infantry regiment deployed in 1839 in the mouth of Shapsukho River – not so far from the type locality of the species described.

Type locality. Lermontovo village – 44°18'14''N 38°44'58''E.

Diagnosis. Small size (body length with wings – 3.0 mm). Head, pro- and mesonotum dark brown with yellowish margins and carinae. Male anal tube 4 times as long as wide medially in dorsal view.

Description. Coryphe transverse, with keel-shaped margins; anterior margin strongly convex; posterior margin concave (Fig. 1). Coryphe with weak median carina. Lateral margins of coryphe diverging posteriorly. Acrometope transverse, with anterior margin straight and lateral margins parallel. Eumetope with clypeus combined in shape of lancet. Eumetope with strong median carina running from its upper margin through post- and anteclypeus (Fig. 3). Ocellus is poorly visible, situated just above metopoclypeal suture which is strongly convex. Lateral margins of eumetope leaf-shaped, covering pedicel. Ocelli well visible. Pedicel widely cylindrical. Rostrum long, its third segment slightly longer than second one, conically narrowing apically and projecting hind coxae caudally. Pronotum with deeply concave hind margin. Mesonotum with 3 carinae. Tegulae large. Fore wings semitransparent, with

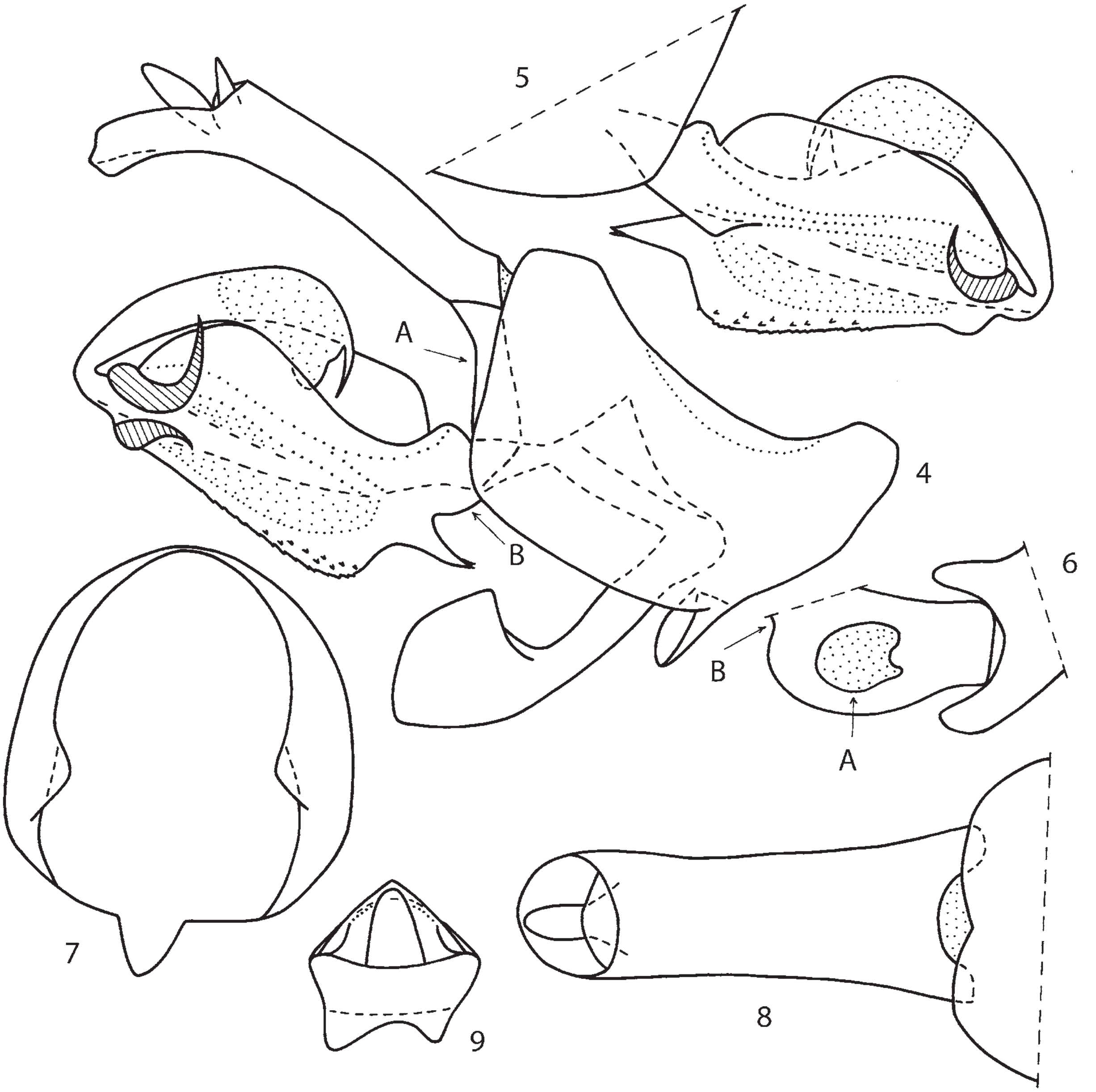


Figs. 1–3. *Cixius* (*Orinocixius*) *lermontovi* sp. nov., holotype. 1 – dorsal view; 2 – lateral view; 3 – face. Total length – 3.0 mm.

grains of setae on the veins (Fig. 2). The venation is different on right and left wings. Right wing: R 4 (RA 2 and RP 2) ir 1 r-m 2 M 3 im 2 m-cua 3 CuA 4 (CuA_1 3, CuA_2 1) icua 1 CuP 1. Left wing: CuA_1 fused to M near to wing middle, furcating in apical third of wing – CuA_1+M 6 m-cua 3 icua 1 CuA_2 1 CuP 1. Clavus open. Hind tibia with 3 lateral spines and with 6 apical spines. First and second metatarsomeres each with 2 latero-apical and 6 intermediate spines.

Coloration (Figs. 1–3). Acrometope, eumetope, and coryphe dark brown, with yellowish margins and median carina. Coryphe dark brown with yellowish anterior margin and lateral margins; the last ones bear dark brown patches laterocaudally. Scapus, and flagellum dark brown. Ocelli, pedicel, pronotum (except medially brown paranotal lobes), and tegulae yellowish. Mesonotum dark brown, with light brown carinae. Fore wings with brown grains. Fore and middle coxae dark brown with yellowish bases and apices. Rostrum, fore and middle femora and tibiae and hind legs with coxae yellowish. Claws and dorsolateral plates of pretarsus dark brown to black. Apices of spines black.

Male genitalia (Figs. 4–9). Pygofer wide, with hind margins strongly convex (in lateral view) (Fig. 4), each margin with a small lobe medially (in caudal view) (Figs. 4–7). Ventral margin of pygofer with a lobe below the styles. Anal tube long and narrow, 4 times as long as wide medially, slightly narrowing apically (in dorsal view) (Fig. 8); lateral margins slightly turned down apically (in lateral view) (Fig. 4). Paraproct short (Figs. 8, 9). Phallotheca with two lateral areas of weak sclerotization, denticles ventrally, and with two lobe-shaped combs dorsally – left comb deeply concave proximally (Fig. 4), right comb convex (Fig. 5). Lower margin of phallotheca with



Figs. 4–9. *Cixius* (*Orinocixius*) *lermontovi* sp. nov., holotype, male genitalia. 4 – genital block, left side; 5 – phallotheca, right side; 6 – suspensorium, caudo-dorso-lateral view (view under a corner); 7 – pygofer, caudal view; 8 – anal tube, dorsal view; 9 – anal tube, caudal view. Abbreviations: A – point of view on unsclerotized rounded area in centre of suspensorium; B – point of view on phallotheca basement.

two strong teeth proximally. Phallotheca with three movable teeth near to the base of the distal segment of penis – upper tooth large, directed upwards and lower tooth small, directed downwards on left side (Fig. 4) and one large tooth directed upwards on the right side (Fig. 5). Apical part of distal segment of penis weakly sclerotized. Suspensorium symmetrical (caudo-dorso-lateral view on the Fig. 6), with unsclerotized rounded area in centre. Style with acutely angulated apical part.

Total length (from apex of coryphe to apices of fore wings). 3.0 mm.

ACKNOWLEDGEMENTS

I am glad to thank Mr. Gernot Kunz (Graz, Austria) for his help with literature. The study is performed in the frames of the Russian state research project no. AAAA-A17-117030310210-3 and supported by the Presidium RAS program no. 41 "Biodiversity of natural systems and biological sources of Russia".

REFERENCES

Bourgoin T. 2017. FLOW (Fulgoromorpha Lists on The Web): a world knowledge base dedicated to Fulgoromorpha. Version 8, updated 18 August 2017. http://hemiptera-databases.org/flow/. Accessed in August 2017.

Emeljanov A.F. 2015. Planthoppers of the family Cixiidae of Russia and adjacent territories. KMK Scientific Press Ltd, St. Petersburg – Moscow, 252 p. [In Russian].

Gnezdilov V.M. 2000. To the knowledge of the faunistic complexes of the Cicadina (Homoptera) in the main plant formations of the Northwestern Caucasus. *Entomologicheskoe obozrenie*, **79**(4): 794–811. English translation published in *Entomological Review* (2001), **80**(8): 927–945.

Wagner W. 1939. Die Zikaden des Mainzer Beckens. Zugleich eine Revision der Kirschbaumschen Arten aus der Umgebung von Wiesbaden. *Jahrbuch des Nassauer Vereins für Naturkunde Wiesbaden*, **86**: 77–212.

Submitted December 14, 2017; accepted February 26, 2018.